Hylaea (Apocynaceae–Apocynoideae), a New Genus from South America

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ABSTRACT. The genus *Hylaea*, restricted to Venezuelan–Brazilian Amazonia, is described here. Two new combinations, *Hylaea arborescens* and *H. leptoloba*, are proposed.

As a result of recent study of material of *Prestonia* (Apocynaceae) from throughout its range and during preparation of the accounts of the Apocynaceae for the *Flora Mesoamericana* and the *Manual to the Plants of Costa Rica*, it became evident that the delimitation of *Prestonia* needed critical study and that several nomenclatural adjustments were appropriate. Recently, some effort toward resolution of these nomenclatural problems in *Prestonia* has been made (Morales, 1996, 1997a, 1997b).

Prestonia leptoloba and *P. arborescens*, described and included in *Prestonia* by Monachino (1957, 1961), possess a different corolla structure (stamens completely exserted, absence of the annular corona in the orifice of the corolla tube) that does not allow inclusion of these taxa in *Prestonia*. Therefore, a new genus is here created with two new necessary combinations.

Hylaea J. F. Morales, gen. nov. TYPE: *Hylaea leptoloba* (Monachino) J. F. Morales.

Herba volubilis vel arbor parva, *Prestoniae* et *Laubertiae* affinis; folia opposita petiolata ad coriacea eglandulifera; inflorescentia subcorymbosis lateralis pedunculata multiflora; corolla regularis 5-partita infundibuliformis vel hypocrateriformis appendicibus epistaminalibus exserta inconspicue stamina exserta puberulus annulo faucium absens; fructus ignotus.

Suffruticose lianas or small trees. Stems subterete to somewhat flattened, inconspicuously puberulent to glabrate, inconspicuously lenticellate, latex unknown. Leaves opposite, coriaceous, glabrous, colleters absent at the base of the leaf blade, petiole slightly fused at the base, mostly with colleters in the axils. Inflorescence a subcorymbose or subcorymbose-umbelliform cyme, axillary, minutely puberulent to glabrous or glabrate, many-flowered, usually long-pedunculate, bracts foliaceous or scarious. Flowers: sepals scarcely imbricate at the base, bearing a solitary episepalous colleter within, subentire to inconspicuously erose, corolla infundibuliform or salverform, glabrous without, free corona appendages, completely exserted, inserted in the orifice of the corolla mouth, the limb 5-parted, actinomorphic, dextrorsely convolute, stamens 5, totally exserted, infrastaminal indument within, anthers connivent and agglutinated to the pistil head, densely puberulent, consisting of 2 parallel, uniformly fertile thecae borne adaxially near the apex of an enlarged, sagittate, 2-auriculate, sterile part of the anther, auricles short, acute to short-acuminate, filaments short, puberulent to pilose, carpels 2, united at the apex by a common stylar shaft surmounted by the fusiform style head, ovary glabrous, ovules numerous, multiseriate, nectaries 5, separated. Follicles unknown.

Hylaea comprises two species restricted to Venezuelan–Brazilian Amazonia. The generic name recalls the area where the plants were collected.

KEY TO THE SPECIES OF *HYLAEA*

1a. Tree; leaf blades 6–10.5(–12) × 2.4–4(–5) cm; inflorescence bracts 0.1–0.2 cm, scarious . . . . *H. arborescens*
1b. Liana; leaf blades (13–)26–30 × (6–)12–13.5 cm; inflorescence bracts 0.7–1 cm, foliaceous, early caducous . . . . *H. leptoloba*

Hylaea arborescens (Monachino) J. F. Morales, comb. nov. Basionym: *Prestonia arborescens* Monachino, Mem. New York Bot. Gard. 10: 63–64, fig. 43E–M. 1961. TYPE: Venezuela. Amazonas: Rio Guainía, occasional along Caño San Miguel just above Limoncito, 15 km from Río Guainía, 100–400 m, 28 June 1959 (fl), *Wurdack & Adderley 43232* (holotype, NY; isotypes, F, INB, MO, VEN; photograph, INB ex F).

Tree 4–5 m tall; branchlets inconspicuously puberulent to glabrous or glabrate, inconspicuously lenticellate. Leaves: petiole 0.4–0.8(–1) cm; blade 6–10.5(–12) × 2.4–4(–5) cm, coriaceous, elliptic to oblanceolate, obtuse to acute at the apex, acute

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basally, glabrous; secondary veins slightly impressed, veinlets inconspicuous. Infloresconse subcorymbose-umbelliform, axillary, ± agglomerate, many-flowered, minutely puberulent to glabrous or glabrate; peduncle 4.5–8.5(–10) cm; pedicels 2.5–5(–6) cm; bracts ca. 0.1–0.2 cm, scarious. Flowers: sepals 2–3 × 1.5–3 mm, ovate, acute to obtuse, subcoriaceous, minutely puberulent to glabrate; colleters ca. 0.5 mm long, subentire to inconspicuously erose; corolla narrowly infundibuliform, white and pink-tinged, glabrous; tube 8–10 × 3.5–4 mm; corona lobes less than 1 mm, annular corona absent; lobes 0.9–1.2(–1.5) × 0.6–0.9(–1.2) cm, obovate; anthers 6 mm, densely puberulent, totally exserted; ovary 1–1.5 mm long; style head ca. 1.5 mm long; nectaries about equaling the ovary, separate, entire. Follicles unknown.

This species, known only from the type collection, is restricted to Venezuelan Amazonia. It is characterized by its arborescent habit, coriaceous leaves, free corona appendages, lack of an annular corona, and completely exserted anthers. The most important characters on which the segregation of *Hylaea* from *Prestonia* are based are the absence of an annular corona and the totally exserted anthers. The close affinity of *Hylaea* with *Prestonia* is exemplified by the free corona lobes and corymbose to subcorymbose inflorescences, present in both genera.

Although Monachino (1961) and Morillo (1978, 1995) included this species within *Prestonia*, careful examination of the type collection showed significant differences with respect to the main characters of that genus. Both authors mentioned the presence of a papillose faucal annulus; however, careful examination of the flowers revealed that it is absent.

In *Prestonia* the annular corona is always situated in the corolla mouth and below this, within the tube, are the free corona lobes (when present) or the callus ridges. In the flowers of *Hylaea arborescens*, the appendages are superimposed over the purported annular corona, which is really composed only of a thickening of the adpressed pubescence of the corolla tube within: a true annular corona is not present.

Following Morales (1997a), the presence of an annular corona is one of the most important features that separate *Prestonia* and *Laubertia* from other closely related genera. Both genera are easily distinguished by this character, which is present in all the species. Other species (e.g., *P. woodsoniana* (Monachino) A. H. Gentry, *P. caudata* Woodson, and *P. agglutinata* (Jacquin) Woodson) previously included in *Prestonia* but which lack an annular corona were recently transferred to *Echites* (Morales, 1997b).

In some Mesoamerican species of the section *Tomentosae* (e.g., *P. clandestina* J. F. Morales, *P. mexicana* A. DC., *P. speciosa* Donnell Smith), the annular corona is conspicuously five-lobed and somewhat reduced, but is always present. In some South American species (e.g., *P. solanifolia* (Müller Argoviensis) Woodson) the annular corona is very reduced but always visible. Therefore, following the generic concepts put forward by Woodson (1933, 1936) and Pichón (1950), and in conjunction with the foregoing rationale, *Prestonia arborescens* Monachino should not be included within *Prestonia* because other closely related genera such as *Laubertia* would then also be drawn in to *Prestonia*.

The genus *Hylaea* can be separated from most closely related genera by the following key:

1a. Anthers totally exserted; annular corona absent . . . . *Hylaea*
1b. Anthers included or with the apices partially exserted, never totally exserted; annular corona present, conspicuous or inconspicuous.
  2a. Sepals with colleters within . . . . *Prestonia* (including *Rhodocalyx*)
  2b. Sepals without colleters within . . . . *Laubertia*

During the course of an examination of *Prestonia* types from South America, another species of *Hylaea* was found. Previously included in *Prestonia* by Monachino (1957), it is characterized by its scandent habit and larger leaves. Therefore, a new combination is necessary and is proposed here.

Hylaea leptoloba (Monachino) J. F. Morales, comb. nov. Basionym: *Prestonia leptoloba* Monachino, Phytologia 6: 12. 1957. TYPE: Brazil. Amazonas: Iraruca, Içana, 16 Nov. 1945 (fl), *Fróes 21391* (holotype, NY; isotypes, IAN, INB; photocopy, INB ex IAN).

Liana; branchlets inconspicuously puberulent to glabrate, inconspicuously lenticellate. Leaves: petiole 0.1–0.2 cm; blade (13–)26–30 × (6–)12–13.5 cm, coriaceous, elliptic to broadly elliptic, subabruptly acuminate at the apex, obtuse basally, glabrous; secondary veins slightly impressed, veinlets inconspicuous. Inflorescence subcorymbose, axillary, ± agglomerate, many-flowered, glabrous to glabrate; peduncle 4.5–6 cm; pedicels 2–5.5 cm; bracts 0.7–1 cm, foliaceous, early caducous. Flowers: sepals 2–3 × 1.5–2 mm, ovate, acute, subcoriaceous, minutely puberulent to glabrate; colleters ca. 0.5 mm long, subentire; corolla salverform, white and purple-tinged, glabrous; tube 9–10 × 3–4 mm; corona lobes less than 1 mm; annular corona absent; lobes 0.9–1 × 0.5–0.6 cm, narrowly obovate; anthers ca. 6 mm, densely puberulent; ovary less than 1 mm; style head ca. 1.5 mm; nectaries surpassing the ovary, separate, entire. Follicles unknown.

Known only from the type collection. *Hylaea leptoloba* is closely related to *H. arborescens*, but differs by its scandent habit, larger leaves, and conspicuously foliaceous inflorescence bracts.

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